Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph number [005] with the following rewritten paragraph:

[005] The above referenced issued U.S. Patent No. 5,736,897 shows a state-variable filter used as a pre-amplifier that receives an input program signal and processes the input program signal to provide three band-pass signals comprising a ~~low band-pass signal~~ **low-range band-pass signal** (Vlp), a mid-range band-pass signal (Vmp) and a ~~high band-pass signal~~ **high-range band-pass signal** (Vhp) to respective inputs of a summing amplifier. The three signal components are then summed and output as a compensated signal at its output. The '897' Patent then shows the compensated signal being processed by a "compander" circuit first introduced in the above referenced U.S. Patent No. 5,510,752. Application S/N 09/444,541 referenced above shows the compensated signal at the output of the state-variable filter driving an audio boost circuit.**[[.]]**

Please replace paragraph number [006] with the following rewritten paragraph:

[006] Audio amplifiers are used in appliances such as radios, television sets and CD players. It was noted that such applications had a tendency to process audio signals that had a large or dominant mid-range **band-pass** component of signal and that much less energy was being processed in the low and high frequency ranges. The mid-range **band-pass** signal was observed to have sufficient amplitude to drive the composite or compensated audio signal beyond the linear range of the amplifier. As the amplitude of the compensated signal exceeds the linear range of the amplifier, clipping takes place and signal components in the low and high frequency ranges, as well as signal in the ~~mid range~~ **mid-range**, were observed to be lost.

Please replace paragraph number [008] with the following rewritten paragraph:

[008] The above-noted problems, and others, are overcome in accordance with the subject invention AUDIO PRE-AMP AND MID-BAND COMPRESSOR CIRCUIT which uses

a mid-range **band-pass** control signal to control the gain of a compressor circuit that inversely increases or decreases the amplification of the entire compensated signal at the output of the pre-amplifier as a function of the average amplitude of the phase inverted mid-range audio signal that is being processed by the pre-amplifier.

Please replace paragraph number [0020] with the following rewritten paragraph:

[0020] Figure 2 re-arranges the circuitry within phantom block 12 to provide a more intuitive schematic of the state-variable pre-amplifier. Phantom block 30 represents an input summing and damping amplifier circuit. The buffered IPS is coupled to the inverting input of the amplifier at terminal 32. A mid-range band-pass signal , Vmp, is produced by the topology and is fed to the non-inverting input 52 of the input summing and damping amplifier circuit amplifier 30 for damping. The input summing and damping amplifier circuit 30 uses operational amplifier 36 for amplification. All operational amplifiers used in the embodiment of Figure 1 and Figure 2 are of the type TL-072 available from Texas Instrument and other suppliers. It should be understood that the selection of an operational amplifier for use in the embodiment of Figure 2 is a design choice. The output of amplifier 36 is the ~~**high range**~~ **high-range** band-pass signal Vhp. The ~~**high range**~~ **high-range** band-pass signal Vhp is coupled to the negative input of a first integrator circuit within phantom block 44. The first integrator circuit 44 uses a second amplifier operational amplifier 45 for the inversion and integration of the Vhp signal. The ~~**high range**~~ **high-range** band-pass signal Vhp is also coupled to the summing amplifier high pass input 46 via signal line 48.

Please replace paragraph number [0021] with the following rewritten paragraph:

[0021] The first integrator 44 integrates the Vhp signal to provide the mid-range band-pass signal Vmp at first integrator output 50. The mid-range ~~**bandpass**~~ **band-pass** signal Vmp is fed back to the damping input 52 of the input summing and damping amplifier circuit 30 and to the mid-range summing amplifier input 54 via signal line 50. The mid-range ~~**bandpass**~~ **band-**

pass signal Vmp is also coupled to the inverting input of the second integrator circuit within block 58 which uses a third operational amplifier 59

Please replace paragraph number [0022] with the following rewritten paragraph:

[0022] The second integrator within phantom block 58 responds to the mid-range ~~bandpass~~ **band-pass** signal Vmp on signal line 50 and provides a low ~~bandpass~~ **band-pass** signal Vlp at the second integrator output terminal 60. The low ~~bandpass~~ **band-pass** signal Vlp is coupled to the summing amplifier low band-pass signal input 66 via signal line 68. The low ~~bandpass~~ **band-pass** signal Vlp is also fed to the second inverting input 72 of the input summing and damping amplifier circuit 30.

Please replace paragraph number [0023] with the following rewritten paragraph:

[0023] The summing and damping amplifier circuit 30 within phantom block 30 of Figures 1 and 2 has an inverting input 52. The inverting input 52 drives a divider circuit that comprises an input resistor 74 that has a first terminal connected to receive the mid-range ~~bandpass~~ **band-pass** signal at damping input 52. A second terminal of resistor 74 is coupled to the first terminal of resistor 76 and to the non-inverting input 38 of operational amplifier 36. The second terminal of resistor 76 is coupled to a reference ground. The ratio of resistors 74 and 76 establish the "Q" of the state-variable filter. The higher the ratio of the resistors 74 to 76, the higher the Q. The Q of the State-Variable Filter Pre-Amp 12 of Figures 2 and 3 is typically in the range of 0.5 to 2 for audio applications.

Please replace paragraph number [0030] with the following rewritten paragraph:

[0030] Viewing the circuit heuristically, the higher reactance of the smaller cap for mid-range ~~bandpass~~ **band-pass** amplifier, first integrator 44 clearly sets the gain of the first integrator 44 which provides an output equivalent to a ~~midrange~~ **mid-range** band-pass amplifier to higher values at lower frequencies than that of the second integrator 58 low which provides an output equivalent to a ~~low-range~~ **low-range** band-pass amplifier. It can also be seen

that the first integrator 44 operates as a single pole filter. Therefore, the feed back signal Vmp to the damping resistors 74, 72 (R1,R2) that results in a controlled Q in the mid-range frequencies band.

Please replace paragraph number [0034] with the following rewritten paragraph:

[0034] where R4 and C2 are the value of resistor R5 and capacitor C2. The ~~**mid range**~~ **mid-range** break f_c is established by equation (3):